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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/574,638 | 03/31/2006 | Italo Carfagnini | 58009-021400 | 1734 |

33717 7590 07/14/2011
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INTELLECTUAL PROPERTY DEPARTMENT
Chicago, IL 60601

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| EXAMINER |
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KRYLOVA, IRINA

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1764

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| NOTIFICATION DATE | DELIVERY MODE |
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07/14/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/574,638 | CARFAGNINI, ITALO | |
| | Examiner | Art Unit | |
| | IRINA KRYLOVA | 1764 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4,6,7,15,16 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4,6,7,15,16 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed by Applicant on June 15, 2011 has been fully considered. The Declaration of Alessandro Carfagnini filed on June 15, 2011 is acknowledged and has been fully considered. The amendment to instant claims 2, 7, 15, 20, 22, 23 is acknowledged. Specifically, claim 15 has been amended to include the limitations of a method for producing a recyclable and non-toxic plasto-elastomeric composition, wherein the composition comprises improved flame retardant or sound deadening properties; the method comprises a) combining an EPDM terpolymer consisting of at least two alpha-olefinic monomers and at least one dienic monomer, and at least one basis filler of mineral origin; and b) crosslinking in the presence of the basis filler to form the plasto-elastomeric composition with nonhalogenated alkylphenol-formaldehyde resin and 0.1-0.8 pbw of salycilic acid. Thus, the currently amended claim 15 recites that filler is added before cross-linking step, wherein the original and previously amended claims recite that filler is added during or after cross-linking step. The limitations were not previously presented and were taken from instant specification (p. 6, lines 30-32; p. 7, lines 25-32; p. 8, lines 10-15). In light of the amendment, previous rejections not cited below, are withdrawn. The new grounds of rejections necessitated by Applicant's amendment are presented below. Thus, the following action is properly made final.

Claim Objections

2. Claim 15 is objected to because of the following informalities: by current amendment instant claim 15 recites the method for producing a plasto-elastomeric composition comprising combining EPDM with filler, followed by crosslinking of EPDM. Plasto-elastomeric composition comprises two phases: plastic and elastomeric. By current amendment the polyolefin, which appears to be the plastic phase, has been eliminated from the composition, thus leaving only EPDM and filler as components. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 15 recites the method for producing a recyclable and non-toxic plasto-elastomeric composition, wherein the composition comprises improved flame retardant or sound deadening properties; the method comprises a) combining an EPDM terpolymer consisting of at least two alpha-olefinic monomers and at least one dienic monomer, and at least one basis filler of mineral origin; and b) crosslinking in the

presence of the basis filler to form the plasto-elastomeric composition with nonhalogenated alkylphenol-formaldehyde resin and 0.1-0.8 pbw of salicylic acid. Thus, the currently amended claim 15 recites that filler is added before cross-linking step. However, the original claims and instant specification recite that filler is added during or after cross-linking step (original claim 1; p. 7, lines 21-30 of instant specification). The instant specification recites that production of the formulation according to this invention involves the initial preparation of the predetermined quantity of a composition based on a mixture of vulcanized olefinic resin and polyolefinic resin. In particular such composition is known with the brand name Forprene®. Fillers added to said basic composition may consist of the following components: calcium carbonate; aluminum hydroxide; magnesium hydroxide; barites (p. 7, lines 20-32 of instant specification). The addition of these fillers of mineral origin to the Forprene® allows the creation of a composition suitable for various applications (p. 8, lines 10-14 of instant specification). It is further noted that composition marketed with tradename Forprene® is cited as being the one disclosed in EP 230212, i.e. polyolefin-EPDM vulcanized with phenol-formaldehyde resin/salicylic acid cross-linking agent. Therefore, the instant specification does not provide a support for the limitation of adding the filler to EPDM and then cross-linking the EPDM in the presence of filler.

Claim Rejections - 35 USC § 103

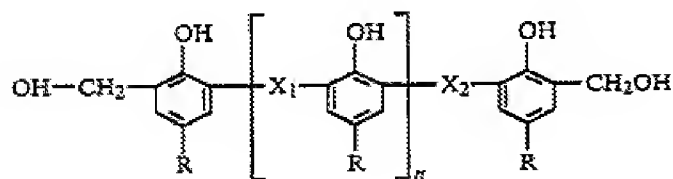
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4, 6-7, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Danesi et al** (US 4,477,631) in view of **Carfagnini** (EP 230,212) and **Onizawa** (US 5,990,204).

5. As to instant claim 15, **Danesi et al** discloses a process for preparing a plasto-elastomeric composition having improved processability comprising dynamical vulcanization of a plastomeric olefinic polymer and EPDM (Abstract, col. 1, lines 66-68; col. 2, lines 1-4), in the presence of halogen-donor free cross-linking system comprising phenolic non-halogenated resin and a metal compound selected from the group consisting of calcium carbonate (also, as to instant claims 15 and 7, cited in Abstract, col. 3, lines 26-50), magnesium oxide and alumina (col. 3, lines 26-31) to produce at least partially cross-linked elastomeric terpolymer (col. 3, lines 50-51), wherein the phenolic non-halogenated resin is having the following formula:



Wherein X1 comprises -CH2-;

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And R is alkyl, aryl or alkenyl containing 4-16 carbon atoms (col. 1, lines 1-15).

The phenolic resin is used in amount of 1-10 pbw and the ratio of the used calcium carbonate to phenolic resin is 0.5:1 to 5:1 (col. 3, lines 41-44).

Thus, it would have been obvious to a one of ordinary skill in the art that calcium carbonate may be combined with phenolic resin in appropriate ratio of up to 50 pbw and added to polyolefin/EPDM blend for further vulcanization. EPDM comprises a terpolymer of two alpha-olefinic monomers with non-conjugated dienic monomer (col. 2, lines 27-38).

6. Danesi et al does not explicitly recite the non-halogenated phenolic resin curing system further comprising 0.1-8 pbw of salicylic acid, as further required by instant claim 15.

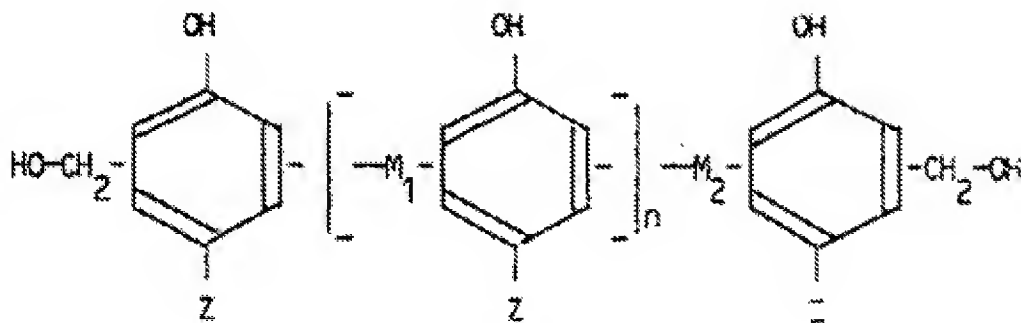
7. Carfagnini discloses a process for producing a plastomer-elastomer compositions from polyolefins and EPDM comprising:

- 1) mastification of the EPDM elastomer and fusion of the polyolefin plastomer;
- 2) thorough dispersion of the components;
- 3) cross-linking of the elastomeric component;
- 4) even dispersion of any other additives (p. 3, lines 54-58),

wherein the elastomer is partially or fully cross-linked (Abstract), and the cross-linking agent consist of

a) 0.5-15 pbw per 100 pbw of EPDM of non-halogenated phenolic resin having the following structure:

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And M1 and M2 are radicals -CH₂- or -CH₂-CO-CH₂- ,

Z is an alkylenic, aryl or alkyl radical 4-16 carbon atoms;

N is integer of 0-6 (p. 3, lines 1-15); and

b) salicylic acid, admixed at a rate of 0.1-0.8 parts per 1 part of resin, by weight (p. 3, lines 45-46).

The additives added in step 4) comprise carbonate and inorganic pigments (p. 4, lines 18-25).

8. **Carfagnini** teaches that the use of non-halogenated phenolic resin in conjunction with a salicylic acid will avoid environmental and personal risk stemming from the production of chlorine, require considerably lower temperatures and less time for the implementation (p. 2, lines 32-37).

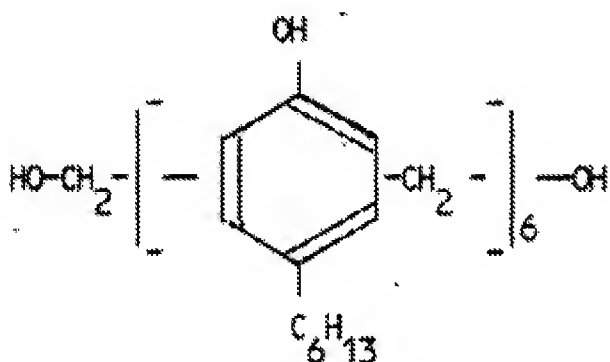
9. Since **Carfagnini** discloses the process for producing plasto-elastomeric composition similar to that of **Danesi et al** but further recites that the use of phenolic resin curing agent in combination with salicylic acid provides a process that will avoid environmental and personal risk stemming from the production of chlorine and will require considerably lower temperatures and less time for the implementation (p. 2,

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lines 32-37 of **Carfagnini**), and **Onizawa** provides further teaching that in carrying out cross-linking of polyolefin/diene rubbers (i.e. butyl rubber) in the presence of phenol-formaldehyde resin and 70-180 pbw of calcium carbonate, an acid, i.e. stearic acid, may further be added (col. 9, lines 34-39; col. 3, lines 55-65 of **Onizawa**), thus clearly teaching that cross-linking of rubber by phenol-formaldehyde resin in the presence of both calcium carbonate and acid may take place as well, therefore, it would have been obvious to a one of ordinary skill in the art to combine the teachings of **Carfagnini** and **Danesi et al** and to use phenolic resin curing agent in combination with salicylic acid in the process of **Danesi et al**, as taught by **Carfagnini**, so to ensure the process of **Danesi et al** will avoid environmental and personal risk stemming from the production of chlorine and will require considerably lower temperatures and less time for the implementation as well. Further, since the physical properties of the composition such as hardness and self-extinguishing properties, and degree of cross-linking depend on the relative proportion of added calcium carbonate, phenolic resin and salicylic acid, therefore, the relative proportion of added calcium carbonate, phenolic resin and salicylic acid becomes a result effective variable and, therefore, it would have been obvious to one skilled in the art at the time of the invention was made, to make variations in the relative proportion of added calcium carbonate, phenolic resin and salicylic acid to obtain the desired degree of cross-linking of the composition and further the desired combination of hardness and self-extinguishing properties. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05 II).

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10. As to instant claim 16, the phenolic resin is a phenol-formaldehyde resol resin having the following formula:



11. Though **Danesi et al** in view of **Carfagnini** and **Onizawa** do not explicitly recite the Shore hardness and specific gravity of the produced plasto-elastomeric composition, however, since the composition of **Danesi et al** in view of **Carfagnini** and **Onizawa** is produced by the process identical to that claimed in the instant invention with the use of the same curing system and metal compound such as calcium carbonate in amount overlapping with that claimed in the instant invention, therefore, the properties of the plasto-elastomeric composition of **Danesi et al** in view of **Carfagnini** and **Onizawa**, including specific gravity and Shore hardness, will intrinsically be identical to those claimed in the instant invention and the composition of **Danesi et al** in view of **Carfagnini** and **Onizawa** will intrinsically be recyclable and will not produce chlorine, dust or will not contain heavy metals.

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12. The composition further comprises mineral fillers (col. 4, lines 7-12).

13. As to instant claim 2, the polyolefin comprises polypropylene (col. 4, lines 38).

14. As to instant claim 3, the mixture comprises 20-60% of the olefinic polymer and 80-40%wt of elastomeric EPDM (col. 3, lines 32-37).

15. As to instant claim 4, the EPDM comprises two alpha-olefinic monomers and one dienic monomer (col. 2, lines 28-32).

16. As to instant claim 6, the dienic monomer comprises 1,4-hexadiene, 2-methyl-1,4-pentadiene; 1,4,9-decatriene (col. 2, lines 33-38).

17. Therefore, claims 2-4, 6-7, 15-16 are obvious over **Danesi et al** (US 4,477,631) in view of **Carfagnini** (EP 230,212), as evidenced by **Onizawa** (US 5,990,204).

18. Claims 2-4, 6-7, 15-16, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Danesi et al** (US 4,477,631) in view of **Carfagnini** (EP 230,212), **Onizawa** (US 5,990,204) and **Credali** (WO 2004/026957).

19. The discussion with respect to **Danesi et al** (US 4,477,631) in view of **Carfagnini** (EP 230,212) and **Onizawa** (US 5,990,204) set forth in paragraphs 4-17 above, is incorporated here by reference.

20. Though **Danesi et al** in view of **Carfagnini** and **Onizawa** do recite the metal compound used in dynamic vulcanization being magnesium oxide and alumina, **Danesi**

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et al in view of **Carfagnini** and **Onizawa** do not specify the metal compound being aluminum hydroxide, magnesium hydroxide or barium sulphate.

21. Credali et al discloses a composition comprises:

- 1) 8-25% by weight of propylene polymer or copolymer;
- 2) 75-92% by weight of elastomeric fraction comprising copolymer of ethylene, propylene and conjugated or non-conjugated diene;
- 3) 40-80% by weight of inorganic filler comprising magnesium hydroxide, aluminum hydroxide, calcium carbonate, barium sulfate (page 10, lines 7-13; page 11, lines 3-4; Abstract; page 6, lines 8-12).

The composition comprises self-extinguishing properties, while retaining the physical and mechanical properties, and having Shore A hardness of lower than 85 (p. 11, lines 11-16).

22. All ranges in the composition of **Credali et al** are overlapping with the corresponding ranges of those claimed in the instant invention. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA

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1974). In light of the cited patent case law, it would therefore have been obvious that in this particular instance the overlapping of the ranges in the composition of **Credali et al** and those claimed in the instant invention, establish a prima facie case of obviousness as well.

23. Since **Danesi et al** in view of **Carfagnini** and **Onizawa** recite the metal compound used in dynamic vulcanization being magnesium oxide and alumina and also disclose the use of mineral fillers, but do not specify the metal compound and/or mineral fillers being aluminum hydroxide or magnesium hydroxide or barium sulfate, and **Credali et al** discloses a similar composition as **Danesi et al** in view of **Carfagnini** and **Onizawa**, but further specify the use of 40-80%wt of magnesium hydroxide, aluminum hydroxide, calcium carbonate, or barium sulfate, wherein the composition of **Credali et al** comprises self-extinguishing properties, while retaining the physical and mechanical properties, and having Shore A hardness of lower than 85 (p. 11, lines 11-16), therefore, it would have been obvious to a one of ordinary skill in the art to combine the teachings of **Danesi et al** in view of **Carfagnini**, and **Onizawa** and **Credali et al** and to use magnesium hydroxide, aluminum hydroxide, calcium carbonate, or barium sulfate in amount of 40-80%wt as a metal compound added before vulcanization in the process of **Danesi et al** in view of **Carfagnini** and **Onizawa** to ensure self-extinguishing properties while retaining the physical and mechanical properties of the composition of **Danesi et al** in view of **Carfagnini** and **Onizawa**, as taught by **Credali et al**, as well. Case law holds that the selection of a known material based on its suitability for its intended use

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supports prima facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958). Further, since the physical properties of the composition such as hardness and self-extinguishing properties, and degree of cross-linking depend on the relative proportion of added filler, phenolic resin and salicylic acid, therefore, the relative proportion of added filler, phenolic resin and salicylic acid becomes a result effective variable and, therefore, it would have been obvious to one skilled in the art at the time of the invention was made, to make variations in the relative proportion of added filler, phenolic resin and salicylic acid to obtain the desired degree of cross-linking of the composition and further the desired combination of hardness and self-extinguishing properties. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05 II).

24. Since the composition of **Danesi et al** in view of **Carfagnini, Onizawa** and **Credali et al** is produced by the process identical to that claimed in the instant invention with the use of the same curing system and metal compound such as calcium carbonate in amount overlapping with that claimed in the instant invention, therefore, the properties of the plasto-elastomeric composition of **Danesi et al** in view of **Carfagnini, Onizawa**

and **Credali et al**, including specific gravity and Shore hardness, will intrinsically be identical to those claimed in the instant invention.

Response to Arguments

25. Applicant's arguments filed on June 15, 2011 have been fully considered. It is noted that in light of the amendment, all previous rejections are withdrawn, thus rendering Applicant's arguments moot. The new grounds of rejections necessitated by Applicant's amendment are set forth above.

26. Regarding the rejections of claims 2-4, 6-7, 15-16 under 35 U.S.C. 103(a) as being unpatentable over **Danesi et al** (US 4,477,631) in view of **Carfagnini** (EP 230,212) and **Onizawa** (US 5,990,204) and claims 2-4, 6-7, 15-16, 20-24 under 35 U.S.C. 103(a) as being unpatentable over **Danesi et al** (US 4,477,631) in view of **Carfagnini** (EP 230,212), **Onizawa** (US 5,990,204) and **Credali** (WO 2004/026957), Applicant argues that according to KSR and the 2010 KSR Guidelines Update, 75 FR 54643-60, the rationales for obviousness determination include combining prior art elements or substitution of one element for another yielding or obtaining predictable results. However, **Danesi et al**, **Carfagnini** and **Credali**, or their combination, first, do not teach adding a basic inorganic filler during cross-linking of the plasto-elastomeric mixture which is catalyzed by an aromatic carboxylic acid without affecting the catalytic activity of the carboxylic acid, and second, there is no motivation to a one of ordinary skill in the art to combine the prior art references and no reasonable degree of

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predictability of success, further referring to a Declaration by Mr. Carfagnini stating that basic fillers were considered incompatible with a cross-linking reaction catalyzed by a carboxylic acid, wherein in case of using those the cross-linking reaction does not occur or occurs at a very slow rate. Mr. Carfagnini further stated unexpected results that basic inorganic fillers do not affect catalytic activity of carboxylic acid.

27. Examiner disagrees.

1) As stated above, the instant specification does not provide a support for the limitation of first, adding the basic filler to EPDM, followed by cross-linking reaction. Rather, the original claim 1 and instant specification recite adding the filler to already vulcanized product Forprene (p. 6, lines 21-22; p. 7, lines 21-32 of instant specification) or during cross-linking (as in original claim 1). However, nowhere in the specification or original claims, the addition of fillers before the cross-linking is recited. Further, the addition of fillers during cross-linking step may take place at the very beginning, middle or end of the cross-linking step, which in turn may affect the rate and degree of cross-linking. No data on the relative degree of cross-linking depending on the specific stage of addition of fillers is provided. Further, the Declaration of Alessandro Carfagnini filed by Applicants on June 15, 2011 has been fully considered. However, the Declaration only generally states that basic fillers can inhibit the carboxylic acid from acting as a catalyst of the cross-linking reaction, and that in case of using those cross-linking reaction either does not occur or occurs at a very slow rate. However, no specific data on how and to what degree basic fillers can affect cross-linking, are provided. At the same time, a)

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instant claim 15 does not recite any degree of cross-linking or its rate and further b) the newly added reference of **Onizawa** provides further teaching that in carrying out cross-linking of polyolefin/diene rubbers (i.e. butyl rubber) in the presence of phenol-formaldehyde resin and 70-180 pbw of calcium carbonate, an acid, i.e. stearic acid, may further be added (col. 9, lines 34-39; col. 3, lines 55-65 of **Onizawa**), thus clearly teaching that cross-linking of rubber by phenol-formaldehyde resin in the presence of both calcium carbonate and acid may take place as well. Further, even if addition of basic fillers affects cross-linking of rubbers, however, as stated above, the addition of fillers during cross-linking step may take place at the very beginning, middle or end of the cross-linking step, which in turn may affect the rate and degree of cross-linking, and thus, addition of fillers at the middle or end of the cross-linking step would lead to higher degree of cross-linking, whereas the addition of the fillers at the beginning of cross-linking reaction would lead to a lesser degree of cross-linking, taken the filler can inhibit the cross-linking reaction, as declared by Mr. Carfagnini. Again, no data or evidence is provided in neither instant specification nor in the provided Declaration.

2) On the other hand, a) **Danesi et al** discloses a process for preparing a plasto-elastomeric composition having improved processability comprising dynamical vulcanization of a plastomeric olefinic polymer and EPDM in the presence of halogen-donor free cross-linking system comprising phenolic non-halogenated resin and up to 50 pbw of metal compound such as calcium carbonate; b) **Carfagnini** discloses a process for producing a plastomer-elastomer compositions from polyolefins and EPDM comprising cross-linking of the elastomeric component in the presence of non-

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halogenated phenolic resin having the following structure and salicylic acid; c) **Onizawa** clearly teaches that cross-linking of rubber by phenol-formaldehyde resin in the presence of both calcium carbonate and acid may take place as well; therefore, one of ordinary skill in the art would have been motivated to combine the teachings of **Danesi et al** and **Carfagnini** and conduct the cross-linking reaction of polyolefin/EPDM composition in the presence of both calcium carbonate and acid, as taught by **Onizawa**, to produce the composition having desired degree of cross-linking and further having improved flame-proof properties, and thus arriving at the present invention. There will be further a reasonable expectation of success in combining the teachings of **Danesi et al** and **Carfagnini**, since **Onizawa** teaches that cross-linking of rubber by phenol-formaldehyde resin in the presence of both calcium carbonate and acid may take place as well. "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form third composition to be used for the same purpose" (see MPEP 2144.06). Case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRINA KRYLOVA whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina Krylova/
Examiner, Art Unit 1764

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1764

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